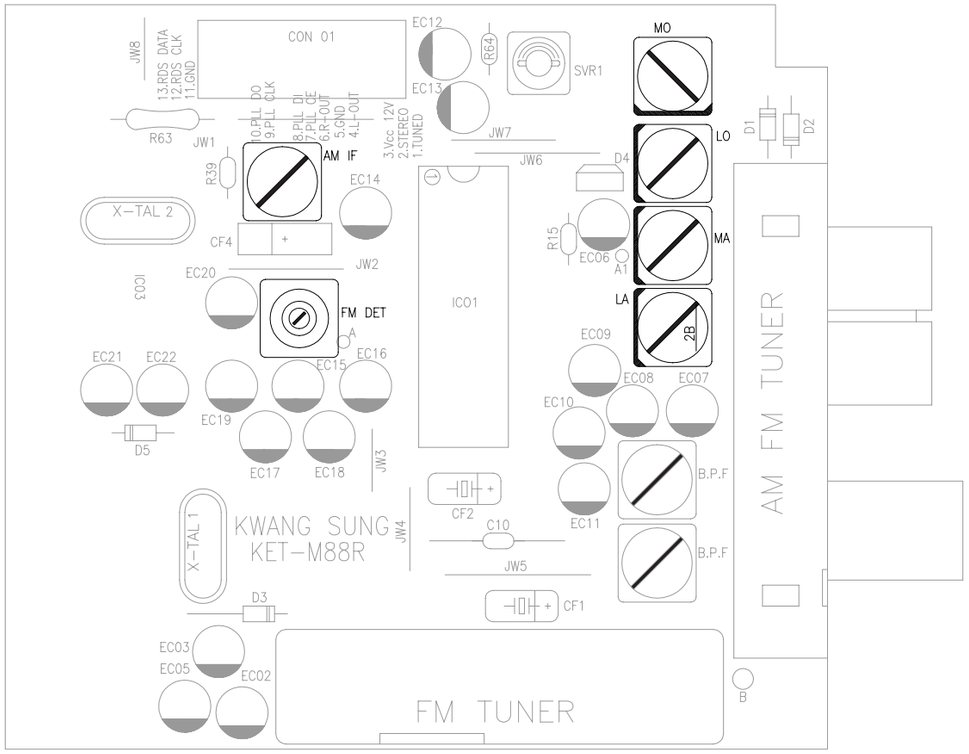
1. Alignment and Adjustments

1-1. Tuner



* Adjustment Location of Tuner PCB

ITEM	AM(MW) OSC	AM(MW) RF	LW OSC	LW RF
Received FREQ.	522~1611 KHz	594 KHz	146~290 KHz	150 KHz
Adjustment point	MO	MA	LO	LA
Output	1~7.0±0.5V	Maximum Output (Fig1-4)	2~7.0±0.5V	Maximum Output (Fig1-4)

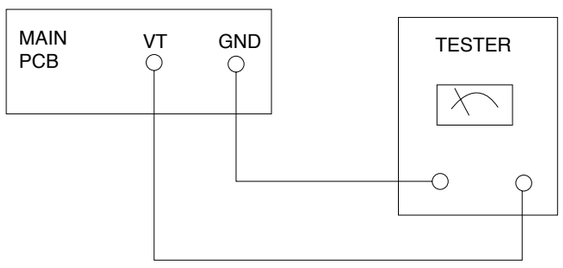


Fig 1-4 OSC Voltage

FM THD Adjustment	
SSG FREQ.	98 MHz
Adjustment point (FM DET)	FM DETECTOR COIL
Output	60 dB
Minumum Distortion (0.4% below) (Figure 1-1)	

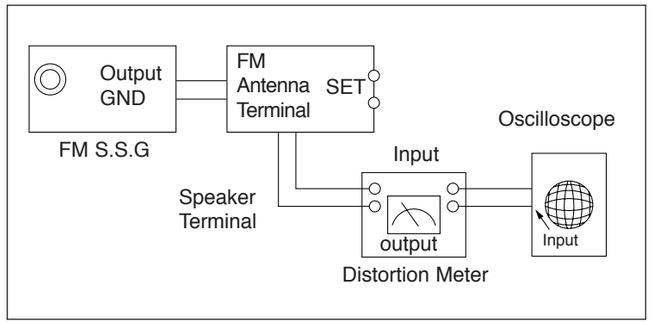


Figure1-1 IF CENTER and THD Adjustment

FM Search Level Adjustment	
SSG FREQ.	98 MHz
Adjustment point (SVR1)	BEACON SENSITIVITY SEMI-VR(10KΩ)
Output	28 dB(±2dB)
Adjust SVR1 so that “TUNED” of FLT is lighted (Figure 1-2)	

*Adjust FM S.S.G level to 28dB

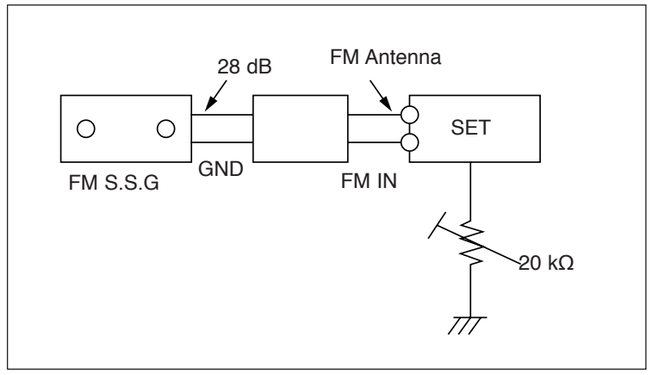


Figure1-2 FM Auto Search Level Adjustment

AM(MW) I.F Adjustment	
SSG FREQ.	450 kHz
Frequency	522 kHz
Adjustment point	AM IF
Maximum output (Figure 1-3)	

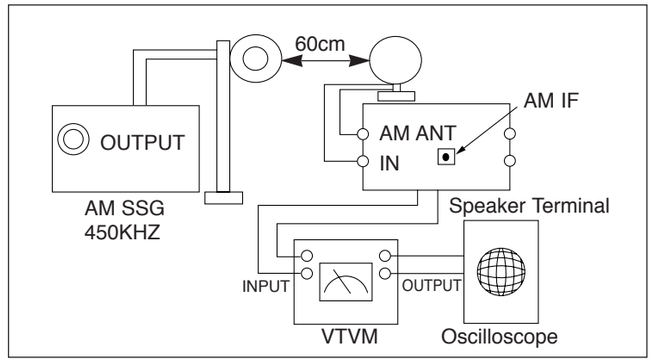


Figure1-3 AM I.F Adjustment

1-1-2 AM(MW),LW Adjustment

	Circuit to be Adjusted	Measuring Instrument & Arrangement	Step	S.S.G Frequency	Radio dial Setting	Adjusting Point	Adjust for
AM (MW)	OSC	Connect AM signal generator to loop antenna,VTVM AND oscilloscope (Fig 1-3)	1	522KHz	522KHz	MW OSC	Aduust for 1.0V±0.1V at the low. (IR117)
			2	1611KHz	1611KHz	MW OSC	Check for 7.0V±1.0V at the high. (IR117)
	RF	"	1	594KHz	594KHz	MW ANT	Maximum out
	INTER FREQ	"	1	455KHz	522KHz	TL2	Maximum out
LW	OSC	Fig 1-3	1		146KHz	LW OSC	Aduust for 2.0V±0.1V at the low.
			2		290KHz	LW OSC	Check for 7.0V±1.0V at the high.
	RF		1	150KHz	150KHz	LW ANT	Maximum out

1-2. Cassette Deck

1-2-1. To Adjust Tape Speed

Notes

1) Measuring tape: i) MTT-111 (or equivalent)
(Tapes recorded with 3kHz)
ii) MTT-5512 (or equivalent)
2) Connect the SPK OUT of the MAIN PCB to the frequency counter as in figure 1-5.

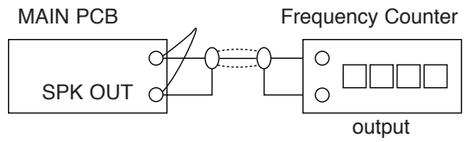


Figure 1-5

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	NOR SPEED Control	SPK OUT (connected to the frequency counter)	1) Deck 1:MTT-111 2) Press PLAY SW button 3) Deck 2:Same as above	Turn VSR1 to left and right (FRONT PCB)	3KHz	±1% range

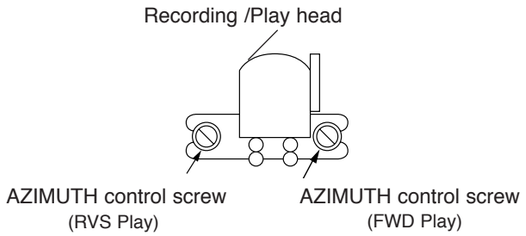


Figure 1-6

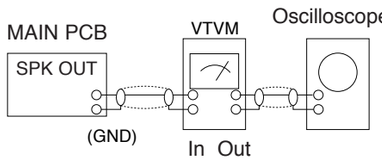


Figure 1-7

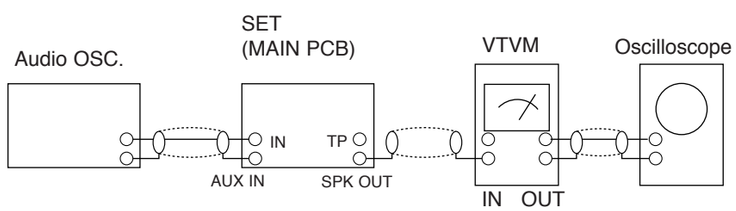


Figure 1-8

2-2. To Adjust PlayBack Level/REC

Notes

1) Before the actual adjustment, clean the play/recording head.
2) Measuring tape :
i) MTT-114N(or equivalent 10kHz AZIMUTH control)
ii) MTT-5512
3) The cassette deck is connections as shown in figure 1-7.

1. Adjust Deck 1 Play Level

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting MTT-114N into Deck 1 - Press FWD PLAY button.	- Turn the control screw to as shown in Figure 1-6.	Max output and same phase (both channels)	After adjustment secure it with REGION LOCK.

2. Adjust Deck 2 Play Level/ REC BIAS

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting MTT-114N into Deck 2 - Press FWD PLAY button.	- Turn the control screw to as shown in Figure 1-6.	MAX OUTPUT and same phase (both channels)	After adjustment secure it with REGION LOCK.
2	Recording Bias Voltage	Fig 1-8	After putting MTT-5512 into Deck 2 1) Press REC PLAY button. 2) TAPE PCB JCW3 ,connected to VTVM	- Turn JSR2L,JSR2R to the right and left	CHECK TO 7mV(±0.5mV)	